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3

D350-748-243TRN
Job Sheet 200633



Part No: D350-748-243TRN

Job Qty: 1 pcs

Part Name: Crosstube Installation, High Aft



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/13/19

Job Tracking No:

Due Date: 10/14/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV A IPP Rev:A New Issue LL 12.05.08

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Mori Seiki TL-40 - 1	1 pcs		10/14/19	1.00	3.57	Mori Seiki TL-40 - 1		DAS 66 9-89 2019/10/04
110	QC 2	1 pcs		10/14/19	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		DAS 66 9-89 2019/10/04
							QC 2 - 66		
							QC 2 - 64		

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					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
120	Mori Seiki TL-40 - 1 - B4B	1 pcs	10/14/19	1.00 3.57	Mori Seiki TL-40 - 1 - B4B	DAS 66 2019/10/08 9-89
130	QC 2	1 pcs	10/14/19	0.00 0.00	QC 2 - 1	
					QC 2 - 12	
					QC 2 - 14	
					QC 2 - 17	
					QC 2 - 19	
					QC 2 - 2	
					QC 2 - 20	
					QC 2 - 22	
					QC 2 - 23	
					QC 2 - 25	
					QC 2 - 32	
					QC 2 - 33	
					QC 2 - 35	
					QC 2 - 39	
					QC 2 - 4	
					QC 2 - 40	
					QC 2 - 44	
					QC 2 - 45	
					QC 2 - 48	
					QC 2 - 49	
					QC 2 - 50	
					QC 2 - 51	
					QC 2 - 52	
					QC 2 - 57	
					QC 2 - 62	
					QC 2 - 63	
					QC 2 - 8	
					QC 2 - 66	DAS MD 66 2019/10/08 9-89
					QC 2 - 64	
					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
140	QC 8	1 pcs	10/14/19	0.00 0.00	QC 8 - 12	
					QC 8 - 14	
					QC 8 - 17	
					QC 8 - 20	
					QC 8 - 25	
					QC 8 - 3	
					QC 8 - 32	
					QC 8 - 33	
					QC 8 - 35	
					QC 8 - 39	
					QC 8 - 4	
					QC 8 - 44	
					QC 8 - 45	
					QC 8 - 49	
					QC 8 - 58	
					QC 8 - 8	
					QC 8 - 9	
					QC 8 - 68	

					QC 8 - 67	
					QC 8 - 1 (A)	DAS
					QC 8 - 47	47 19-10-19
					QC 8 - 40	9-89
					QC 8 - 52	
					QC 8 - 23	
					QC 8 - 57	
					QC 8 - 76	
150 Crosstubes - 2 - B4B	1 pcs	10/14/19	0.00 0.81		Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
190 Packaging 3-1 - Stock - B4B	1 pcs	10/14/19	0.00 0.00		Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
200 QC 21 - SA	1 pcs	10/14/19	0.00 0.00		QC 21 - SA - 21	DAS
					QC 21 - SA - 70	21
					QC 21 - SA - 53	9-89

Part Op 100 - TL-40 (Mori Seiki CNC Lathe Large) 1-Cut tube on chop saw, leave extra mat'l for facing and install plugs 350-241
 Descriptions: on both ends. 2-Face both sides of tube. 3- Turn program 02000 section on both side as per folio FB468. 4- Turn program 03000 section on both side as per folio FB468. 5- Blend transsition lines only with belt sander 60 grit. Folio
 rev: A Dwg rev: A
 110 - (QC2- Inspect parts off machine FAI/FAIB)
 120 - TL-40 (Mori Seiki CNC Lathe Large) 1- Turn program 04000 section on both side as per folio FB468. 2- Turn program 05000 section on both side as per folio FB468. 3- Blend transsition lines only with belt sander 60 grit. 4-Scribe part # as per Dwg D350-748-243. Folio rev: A Dwg rev: A
 130 - (QC2- Inspect parts off machine FAI/FAIB) PERFORME ULTRASONIC MEASURMENT
 140 - (QC8- Inspect parts - second check)

150 - Crosstubes-2 (Crosstubes) 1-Grind machining marks
 190 - Identify and stock in kanban rack
 200 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6021-125	Crosstube Material - 17-4Ph SS	1 pcs (1 ea)	100-Mori Seiki TL-40 - 1	F151691

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Mori Seiki TL-40 - 1	D6021-125	1	31	0

Part Specifications

Specifications could not be found.

**Container No: S219741****Part: D350-748-243TRN****Job No: 200633****Serial No/Batch: S219741****Revision: A****Inspector:****Exp Date:****Instructions:**

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Plex 9/13/19 11:00 AM Dart.lajeunesse.marie

Date: 10/04/19

③

DART AEROSPACE LTD	Work Order: 200633
Description: Crosstube Assembly (AS350/355 High Aft SS)	Part Number: D350-748-243
Inspection Dwg: D350-748-243 Rev: A	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+/-0.005	2.241	✓	CNC-04 ↓	
	2.180	+0.005/-0.000	2.182	✓		
	2.180	+0.005/-0.000	2.180	✓		
	2.208	+0.005/-0.000	2.209	✓		
	2.234	+0.005/-0.000	2.235	✓		
	2.253	+0.005/-0.000	2.254	✓		
	2.272	+0.005/-0.000	2.277	✓		
	2.299	+0.005/-0.000	2.304	✓		
	0.063	+/-0.010	0.063	✓	CNC-08 " RG "	
	5.25	+/-0.060	5.258	✓		
	R0.063	+/-0.010	0.063	✓		
	R0.50	+/-0.030	0.500	✓		
SIDE B	2.240	+/-0.005	2.245	✓	CNC-04 ↓	
	2.180	+0.005/-0.000	2.185	✓		
	2.180	+0.005/-0.000	2.183	✓		
	2.208	+0.005/-0.000	2.213	✓		
	2.234	+0.005/-0.000	2.239	✓		
	2.253	+0.005/-0.000	2.258	✓		
	2.272	+0.005/-0.000	2.277	✓		
	2.299	+0.005/-0.000	2.304	✓		
	0.063	+/-0.010	0.063	✓	CNC-08 " RG "	
	5.25	+/-0.060	5.260	✓		
	R0.063	+/-0.010	0.063	✓		
	R0.50	+/-0.030	0.500	✓		
	124.70	+/-0.060	124.720	✓	Tape	

Item	Qty	Part Number	Description
	-243		
1	X	D350-748-243	CROSSTUBE ASSEMBLY (AS 350355 HI AFT)
2	1	D6021-125	CROSSTUBE
3	2	D3502-1	SUPPORT
4	2	D6123-7	CLAMP CUSHION
5	1	AETC-1032	INSERT
6	2	MS21820-20	CLAMP
		OR MS21920-21-22	(PER DART SPEC. M-MS21820-20-21-22)
7	1	NAS1148C0363R	WASHER (OR AN980C10)
8	1	NAS1635-3-8	SCREW (OR MS61968-63)
9	AR	PROSEAL 890 B-2	SEALANT, AN8-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6021-125
FINISHED LENGTH AFTER TURNING = 124.70±0.08 (AFTER BENDING/TRIMMING = 122.70 REF)
- 2) FINISH: PRIME INSIDE AND OUTSIDE PER TURNING = 124.70±0.08 (AFTER BENDING/TRIMMING = 122.70 REF)
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCE: PER DART QSI 016 UNLESS OTHERWISE NOTED.
WALL THICKNESS ECCENTRICITY PER DART QSI 038 7.2
MIN. ALLOWABLE WALL IS -0.020 FROM NOMINAL
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-243" AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 29.85 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.280 HOLE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- 10) TURNING
BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 11) BENDING
BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES PER SIDE. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D. ON TOP HALF OF BEND, AND 8% ON BOTTOM HALF OF BEND.
- 12) MAX AMPLITUDE OF RIPPING ALONG BENT PORTION OF THE TUBE IS 0.030 (ZIN A1-3)
- 13) MAX TWIST: WITH TUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.38 (ZIN C1-3).
- ASSEMBLY
- 14) TO INSTALL D3502-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT), APPLY A 0.02" TO 0.08" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AN8-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

SHIP COPY
FOR DART
200635 MVS
19-09-13

DEF ATTACHED

RELEASED
2015 MAR 18

RELEASED

2015 MAR 18
15/04/15
16/4/15

UNDER REVIEW

15/4/15
16/4/15

A	NEW ISSUE	CP	BY	DATE
REV.				
DESIGN				
DRAWN				
CHECKED				
MFG. APPR.				
APPROVED				
DATE	15.01.21			

DART AEROSPACE LTD HAMPSHIRE, ONTARIO, CANADA	
DRAWING NO.	D350-748-243
TITLE	CROSSTUBE (AS 350355 HI AFT)
SHEET 1 OF 4	
SCALE	NTS

DRAWING NO. D350-748-243	TITLE CROSSTUBE	REV. A	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D350-748-243-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN 92	CHECKED AJS		MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>		DE APPR. <i>[Signature]</i>	
DATE 15.11.18	DATE 15.11.18		DATE 15.02.19	DATE FEB 19 2016		DATE 2016.02.19	

AMEND NOTE 2 (SHEET 1) AS FOLLOWS:

- 2) FINISH: PREPARE SURFACE PER DART QSI 005 4.1.4
 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
 PAINT OUTSIDE PER DART QSI 005 4.2
 OR
 POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3

RELEASED
 2016-02-26
 EN 16-534 *[Signature]*

Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐



Job: _____ Part No. _____		DISPOSITION Rework ☐ ☐ Scrap ☐ ☐ Use-as-is ☐ ☐		DEPARTMENT/PROCESS Skid-tube ☐ ☐ ☐ ☐ ☐ ☐ Machining ☐ ☐ ☐ ☐ ☐ ☐ Large Fab ☐ ☐ ☐ ☐ ☐ ☐ Cross tube ☐ ☐ ☐ ☐ ☐ ☐ Small Fab ☐ ☐ ☐ ☐ ☐ ☐ Finishing ☐ ☐ ☐ ☐ ☐ ☐ Eng. (Non-AW) ☐ ☐ ☐ ☐ ☐ ☐ Prod. Eng. Coord. ☐ ☐ ☐ ☐ ☐ ☐ Rec/Store/Packaging ☐ ☐ ☐ ☐ ☐ ☐ Engineering ☐ ☐ ☐ ☐ ☐ ☐ Water Jet ☐ ☐ ☐ ☐ ☐ ☐ Supplier ☐ ☐ ☐ ☐ ☐ ☐ Quality ☐ ☐ ☐ ☐ ☐ ☐				Date : _____ Sequence #: _____ QTY Affected : _____		MRB (QS1042)	
Description Work Order Deviation				Disposition							
Completed By				Lead hand / Supervisor							
								QC / QA Coordinator			
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐				FAULT CATEGORY Contamination ☐ ☐ ☐ ☐ ☐ ☐ Misaligned/off center ☐ ☐ ☐ ☐ ☐ ☐ BOM/Route ☐ ☐ ☐ ☐ ☐ ☐ Broken/Damage/Defect ☐ ☐ ☐ ☐ ☐ ☐ Incomplete/Unclear Instructions ☐ ☐ ☐ ☐ ☐ ☐ Drill Holes ☐ ☐ ☐ ☐ ☐ ☐ Fit/Function ☐ ☐ ☐ ☐ ☐ ☐ Pressure/Forced ☐ ☐ ☐ ☐ ☐ ☐ Bending ☐ ☐ ☐ ☐ ☐ ☐ Crushing ☐ ☐ ☐ ☐ ☐ ☐ Cracks ☐ ☐ ☐ ☐ ☐ ☐ Crimp/Kink/Ripple/Wave/Twist ☐ ☐ ☐ ☐ ☐ ☐ Marks/Chatter ☐ ☐ ☐ ☐ ☐ ☐ Mislabeled ☐ ☐ ☐ ☐ ☐ ☐ Other/Details: _____				Power Loss/Surge ☐ ☐ ☐ ☐ ☐ ☐ Folio/Program ☐ ☐ ☐ ☐ ☐ ☐ Grain Direction ☐ ☐ ☐ ☐ ☐ ☐ Weld ☐ ☐ ☐ ☐ ☐ ☐ Wrong Stock Pulled ☐ ☐ ☐ ☐ ☐ ☐ Out of Sequence ☐ ☐ ☐ ☐ ☐ ☐ Off-set/Set-up ☐ ☐ ☐ ☐ ☐ ☐ Positioned Wrong ☐ ☐ ☐ ☐ ☐ ☐ Outside Tolerance ☐ ☐ ☐ ☐ ☐ ☐ Drawing ☐ ☐ ☐ ☐ ☐ ☐ Finish ☐ ☐ ☐ ☐ ☐ ☐ Part Lost/Missing ☐ ☐ ☐ ☐ ☐ ☐ Misread ☐ ☐ ☐ ☐ ☐ ☐			